

Amendments to the Claims

Claim 1 (Currently Amended): An isolated virus suppressing factor (VSF) protein having the following properties:

- (a) it is increasingly produced in an immune cell stimulated by a variant of encephalomyocarditis virus, EMC-DV;
- (b) it has an antiviral activity which is unchanged by immunoprecipitation and immunoneutralization;
- (c) it is inactivated by proteinase K;
- (d) it is not one of the group of antiviral cytokines consisting of IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, IL-17, IL-18, G-CSF, GM-CSF, TNF- α , TNF- β , IFN- α , IFN- β , IFN- γ , TGF- β , RANTES, MIP-1 α , MIP-1 β , MIP-1 γ , MCP-1, MCP-3, IP-10 and lymphotactin;
- (e) it comprises about 55 kDa polypeptide (H), about 30 kDa polypeptides (L1 and L2) and about 25 kDa polypeptide (L3); ~~and~~
- (f) it has a molecular weight of over about 100 kDa; and
- (g) it is stable at 56°C for about 40 minutes.

Claim 2 (Previously Presented): The isolated virus suppressing factor (VSF) protein of claim 1, wherein:

- (a) the H polypeptide has a DNA sequence designated as SEQ ID NO: 1 and an amino acid sequence designated as SEQ ID NO: 2; and
- (b) the L3 polypeptide has a DNA sequence designated as SEQ ID NO: 3 and an amino acid sequence designated as SEQ ID NO: 4.

Claim 3 (currently amended): The isolated VSF protein as set forth in claim 1, wherein the antiviral activity is to suppress proliferation or replication of a virus belonging to the genus Orthomyxovirus, Picornavirus, Retrovirus, or Herpesvirus ~~Orthomyxoviridae, Picornaviridae, Retroviridae or Herpes.~~

Claim 4 (Previously Presented and withdrawn): A method of producing a hybridoma, comprising fusing an immune cell stimulated by a variant of encephalomyocarditis virus, EMC-

DV, with a tumor cell, and producing the hybridoma secreting the isolated virus suppressing factor (VSF) protein of claim 1.

Claim 5 (Previously Presented and withdrawn): A method of preparing the isolated virus suppressing factor (VSF) protein of claim 1, comprising producing a hybridoma secreting the VSF protein by fusing an immune cell stimulated by a variant of encephalomyocarditis virus, EMC-DV, with a tumor cell, culturing the said hybridoma, and isolating the VSF protein from a culture fluid of the said hybridoma.

Claim 6 (Previously Presented and withdrawn): A method of preparing the isolated virus suppressing factor (VSF) protein of claim 1, comprising producing a hybridoma secreting the VSF protein by fusing an immune cell stimulated by a variant of encephalomyocarditis virus, EMC-DV, with a tumor cell, injecting the said hybridoma into an animal, and isolating the VSF protein from an ascitic fluid obtained from the said animal.

Claim 7 (Previously Presented and withdrawn): The method as set forth in claim 5, wherein the VSF protein is isolated from the culture fluid or ascitic fluid using a Blue Sepharose column, a Protein A agarose column, a hydroxyapatite resin column, an FPLC column, or sucrose gradient.

Claim 8 (Previously Presented and withdrawn): A hybridoma producing the isolated virus suppressing factor (VSF) protein of claim 1, which is prepared by fusing an immune cell stimulated by a variant of encephalomyocarditis virus, EMC-DV, with a tumor cell.

Claim 9 (Withdrawn): The hybridoma as set forth in claim 8, wherein the hybridoma is a hybridoma 4D1B (accession number KCLRF-BP-00052).

Claim 10 (Previously Presented): A pharmaceutical composition for prevention and treatment of viral infections, comprising a therapeutically or preventively effective amount of the VSF protein of claim 1 and a pharmaceutically acceptable carrier.

Claim 11 (Previously Presented and withdrawn): A method of preventing or treating viral infections, comprising administering a therapeutically or preventively effective amount of the VSF protein of claim 1 to a subject suffering from a viral infection.

Claim 12 (Previously Presented and withdrawn): The method as set forth in claim 6, wherein the VSF protein is isolated from the culture fluid or ascitic fluid using a Blue Sepharose column, a Protein A agarose column, a hydroxyapatite resin column, an FPLC column, or sucrose gradient.